

## Lungworms in cattle, sheep and goats

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### Introduction

Lungworms in cattle, sheep and goats are generally not economically important, although they occasionally cause significant disease in Australia, usually in host animals debilitated by other parasitic diseases and sub-optimal nutrition.

### *Dictyocaulus* spp ('large lungworm')

*Dictyocaulus filaria*, the large lungworm of sheep and goats, is a slender, whitish worm 3–10 cm long.

Adults live mainly in the airways (bronchi) in the lung. Verminous (worm-related) pneumonia is mainly a disease of cool, moist climates as further development of first stage larvae passed in faeces to the infective third stage requires such conditions.

*D. viviparus* occurs in cattle. This is an extremely important parasite in Britain and increasingly so in continental Europe. *D. viviparus* causes parasitic bronchitis, known in Britain as 'husk'. It occasionally causes disease in Australia in young cattle, mainly dairy cattle.

In the pre-patent phase (before sexual maturity and egg laying), these lungworms may cause patchy pneumonia in heavy infections. As worms mature, emphasis shifts to the bronchial (airways) lesion. Most affected are lobes of the lung adjacent to the diaphragm. Worms are usually bathed in a mucus-containing, foamy bronchial discharge. In heavy infections, there may be patchy to large wedge-shaped areas of dark red or grey consolidation in the rearward lobes. Clinical signs in heavy infections include coughing, rapid breathing, nasal discharge, loss of appetite and ill thrift.

### *Protostrongylus* and *Muellerius* spp.

*Protostrongylus* ('small lungworm') and *Muellerius* spp. ('small or nodular lungworm') occur in Australia but are of little importance. *P. rufescens* is parasitic in sheep, goats and deer. Adults are reddish, mainly inhabit bronchioles (small airways) and are 16–35 mm long, smaller than *D. filaria*. Lesions are broadly similar to those produced by *D. filaria* and *M. capillaris*.

*M. capillaris* parasitises sheep and goats. Adults live in the lung tissue, rarely the airways, and usually provoke an enveloping inflammatory response, hence the common name, 'nodular lungworm'. There is rarely clinical evidence of disease in affected sheep.

### Diagnosis and treatment

Diagnosis is based on clinical signs, post-mortem findings and laboratory testing (detecting lung worm larvae in faeces).

Most modern drenches are effective against lung worm (check the label); however, for extensively grazed ruminants in Australia, this is more a disease of management.

### Acknowledgment

This publication is adapted from Love and Hutchinson (2003).

### References

Love, SCJ and Hutchinson, GW (2003). 'Pathology and diagnosis of internal parasites of ruminants' in *Gross Pathology of Ruminants*, Proceedings 350, Post Graduate Foundation in Veterinary Science, University of Sydney, Ch. 16, pp. 309–38.

[http://www.dpi.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0003/34608/lh-pathol-int-para.pdf](http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/34608/lh-pathol-int-para.pdf)

Wormboss: [wormboss.com.au](http://wormboss.com.au) (Australian Wool Innovation and Australian Sheep Industry Cooperative research Centre).

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